



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,630	09/21/2006	Nobuhiro Ide	80083(302721)	2578

21874 7590 01/13/2010
EDWARDS ANGELL PALMER & DODGE LLP
P.O. BOX 55874
BOSTON, MA 02205

EXAMINER

DIAZ, JOSE

ART UNIT	PAPER NUMBER
----------	--------------

2879

MAIL DATE	DELIVERY MODE
-----------	---------------

01/13/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,630	Applicant(s) IDE ET AL.	
	Examiner JOSE M. DIAZ	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 8 and 9 is/are allowed.
- 6) ☒ Claim(s) 2-5, 7, 10, 11 and 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/17/2009 has been entered.

Cancellation of claims 1 and 12 has been entered.

Claims 2-11 and 14-17 are pending in the instant application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-5, 7, 10-11 and 13-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 10-11 and 13 are rejected because their dependency upon claim 7.

Claim 2, lines 7 and 9 does not make clear which of the anode OR the cathode is the first electrode or the second electrode. The claim language should read as follow:

“forming a first electrode of said anode or said cathode by an optically-transparent

Art Unit: 2879

electrode...; and forming a second electrode of said anode or said cathode by a light-scattering and light-reflective electrode”

Claim 3, lines 9 and 12 does not make clear which of the anode OR the cathode is the first electrode or the second electrode. The claim language should read as follow: “to mount a first electrode of said anode or said cathode ...; mounting a second electrode of said anode or said cathode ...”

Claim 4, lines 8 and 11 does not make clear which of the anode OR the cathode is the first electrode or the second electrode. The claim language should read as follow: “forming a first electrode of said anode or said cathode ...; forming a second electrode of said anode or said cathode ...”

Claim 5, lines 10 and 12 does not make clear which of the anode OR the cathode is the first electrode or the second electrode. The claim language should read as follow: “forming a first electrode of said anode or said cathode ...; forming a second electrode of said anode or said cathode ...”

Claim 7, lines 6 and 9 does not make clear which of the anode OR the cathode is the first electrode or the second electrode. The claim language should read as follow: “a first electrode of said anode or said cathode ...; a second electrode of said anode or said cathode ...”

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent

Art Unit: 2879

protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 14 recites the broad recitation "wherein said organic light emitting device has, at least either inside or outside the device, a light scattering means for scattering light emitted from said emission layers", and the claim also recites "and providing a light-scattering and light-reflective element on a second surface of said substrate" which is the narrower statement of the limitation by specifically allocating the light scattering means outside the device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sugiura et al (20040012980), hereinafter Sugiura**, in view of **Kido et al (20030189401), hereinafter Kido**.

Regarding **claim 2**, Sugiura clearly shows and discloses an organic light emitting device having an emission layer (4) between an anode (5) and a cathode (12), wherein the organic light emitting device has, at least either inside or outside the device, a light scattering means for scattering light emitted from the emission layer, wherein the light scattering means is made up by: forming a first electrode (5) of the anode or the cathode, as best understood by the Examiner, by an optically-transparent electrode to mount the first electrode on an optically-transparent substrate (glass substrate 1, ¶ [114]); and forming a second electrode (12) of the anode or the cathode, as best understood by the Examiner, by a light-scattering and light-reflective electrode (12) (figs. 1-3, ¶s [0101], [0114]).

However, Sugiura fails to exemplify a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer.

In the same field of endeavor, Kido clearly shows and discloses a plurality of emission layers (3-1, 3-2, 3-3) being separated from each other by an equipotential surface forming layer or a charge generating layer (4-1, 4-2) (fig. 8, ¶ [0175]), in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of emission layers being

Art Unit: 2879

separated from each other by an equipotential surface forming layer or a charge generating layer as taught by Kido in the device of Sugiura, in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Regarding **claim 3**, Sugiura clearly shows and discloses an organic light emitting device having an emission layer (4) between an anode and a cathode, wherein the organic light emitting device has, at least either inside or outside the device, a light scattering means for scattering light emitted from the emission layer, wherein the light scattering means is made up by: forming each of the anode (5) and the cathode (13) by an optically-transparent electrode to mount a first electrode of the anode or the cathode, as best understood by the Examiner, on an optically-transparent substrate (glass substrate 1); mounting the emission layer on the first electrode; mounting a second electrode of the anode or the cathode, as best understood by the Examiner, on the emission layer and providing a light-scattering and light-reflective element (14) on the second electrode (fig. 5, ¶s [0101], [0114], [0125]).

However, Sugiura fails to exemplify a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer.

In the same field of endeavor, Kido clearly shows and discloses a plurality of emission layers (3-1, 3-2, 3-3) being separated from each other by an equipotential surface forming layer or a charge generating layer (4-1, 4-2) (fig. 8, ¶ [0175]), in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer as taught by Kido in the device of Sugiura, in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Regarding **claim 4**, Sugiura clearly shows and discloses an organic light emitting device having an emission layer (4) between an anode and a cathode, wherein the organic light emitting device has, at least either inside or outside the device, a light scattering means for scattering light emitted from the emission layer, wherein the light scattering means is made up by: forming a first electrode of the anode or the cathode by a light- scattering and optically-transparent electrode (5) to mount the first electrode on an optically-transparent substrate (glass substrate 1 ¶ [114]); and forming a second electrode (2, ¶ [101]) of the anode or the cathode, as best understood by the Examiner, by a light-reflective electrode (fig. 6, ¶s [0101], [0114], [0131]).

However, Sugiura fails to exemplify a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer.

In the same field of endeavor, Kido clearly shows and discloses a plurality of emission layers (3-1, 3-2, 3-3) being separated from each other by an equipotential surface forming layer or a charge generating layer (4-1, 4-2) (fig. 8, ¶ [0175]), in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer as taught by Kido in the device of Sugiura, in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Regarding **claim 5**, Sugiura clearly shows and discloses an organic light emitting device having an emission layer (4) between an anode and a cathode, wherein the organic light emitting device has, at least either inside or outside the device, a light scattering means for scattering light emitted from the emission layer, wherein the light scattering means is made up by: providing a light-scattering and optically-transparent element (16) on an optically- transparent substrate (glass substrate 1 ¶ [114]); forming a first electrode of the anode or the cathode, as best understood by the Examiner, by an optically-transparent electrode (5) to mount the first electrode on the element (16); and forming a second electrode of the anode or the cathode, as best understood by the Examiner, by a light-reflective electrode (2, ¶ [101]) (fig. 6, ¶s [0101], [0114], [0131]).

However, Sugiura fails to exemplify a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer.

In the same field of endeavor, Kido clearly shows and discloses a plurality of emission layers (3-1, 3-2, 3-3) being separated from each other by an equipotential surface forming layer or a charge generating layer (4-1, 4-2) (fig. 8, ¶ [0175]), in order to

Art Unit: 2879

effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer as taught by Kido in the device of Sugiura, in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Claims 7, 10-11 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Senbonmatsu (20030102801)**, **Senbonmatsu hereinafter**, in view of **Kido et al (20030189401)**, **hereinafter Kido**.

Regarding **claim 7**, Senbonmatsu clearly shows and discloses an organic light emitting device having an emission layer (110) between an anode (106) and a cathode (115), wherein both the anode and the cathode are formed by optically-transparent electrodes a first electrode of the anode or the cathode, as best understood by the Examiner, being provided on an optically-transparent substrate (102), the emission layer being provided on the first electrode, a second electrode of the anode or the cathode, as best understood by the Examiner, being provided on the emission layer, an optical spacer (102) being provided on the second electrode, a light reflective element (114) being provided on the optical spacer a distance between the light reflective element and the emission layer being in the range of about 1 μ m to 1mm by means of

Art Unit: 2879

the optical spacer so as to be set to a distance where an angle dependency of light emission brightness and light emission color can be reduced (fig. 18, Table 5). It is to be noted that the claimed structure from FIG. 10 of the instant application, wherein the substrate "10" also serve as the optical spacer "11", is analogous to Senbonmatsu's embodiment of figure 18. Table 5 Example 14 discloses that the substrate/optical-spacer (102) can have a thickness of $0.1\text{mm} = 100\mu\text{m}$ and the transparent electrode (106) can have a thickness of $100\text{nm} = 0.1\mu\text{m}$; therefore the distance between the light reflective element (114) and the emission layer (110) is $100.1\mu\text{m}$.

However, Senbonmatsu fails to exemplify a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer.

In the same field of endeavor, Kido clearly shows and discloses a plurality of emission layers (3-1, 3-2, 3-3) being separated from each other by an equipotential surface forming layer or a charge generating layer (4-1, 4-2) (fig. 8, ¶ [0175]), in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer as taught by Kido in the device of Senbonmatsu, in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Art Unit: 2879

It is to be noted that the combination of Senbonmatsu and Kido meets all the structure limitations of the organic light emitting device. The limitation "so as to be set to a distance where an angle dependency of light emission brightness and light emission color can be reduced" is a functional statement. Therefore the in the combination of Senbonmatsu and Kido distance between the light reflective element and the emission layers can be adapt to perform the claimed function, i.e. to reduce an angle dependency of light emission brightness and light emission color.

The following is a quotation of the MPEP 2114

APPARATUS CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM THE PRIOR ART

>While features of an apparatus may be recited either structurally or functionally, claims< directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971);< In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

Regarding **claim 10**, in the combination of Senbonmatsu and Kido, Kido clearly shows and discloses that the plurality of emission layers comprises emission layers (3-1, 3-2, 3-3) of at least two different emission colors (fig. 8, ¶ [0207]).

Same rationale to combine from the rejection of claim 7 applies.

Regarding **claim 11**, in the combination of Senbonmatsu and Kido, Kido clearly shows and discloses that the emission color of the organic light emitting device is white (fig. 8, ¶ [0207], claim 29).

Same rationale to combine from the rejection of claim 7 applies.

Regarding **claim 15**, Senbonmatsu clearly shows and discloses an organic light emitting device having an emission layer (110) between an anode (106) and a cathode (115), wherein both the anode and the cathode are formed by optically-transparent electrodes, any one of the anode and the cathode being provided on a first surface of an optically-transparent substrate (102), a light reflective element (114) being provided on a second surface of the substrate as an optical spacer, a distance between the light reflective element and the emission layer being in the range of about 1 μ m to 1mm by means of the optical spacer so as to be set to a distance where an angle dependency of light emission brightness and light emission color can be reduced (fig. 18, Table 5). It is to be noted that the claimed structure from FIG. 10 of the instant application, wherein the substrate "10" also serve as the optical spacer "11", is analogous to Senbonmatsu's embodiment of figure 18. Table 5 Example 14 discloses that the substrate/optical-spacer (102) can have a thickness of 0.1mm = 100 μ m and the transparent electrode

Art Unit: 2879

(106) can have a thickness of $100\text{nm} = 0.1\mu\text{m}$; therefore the distance between the light reflective element (114) and the emission layer (110) is $100.1\mu\text{m}$.

However, Senbonmatsu fails to exemplify a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer.

In the same field of endeavor, Kido clearly shows and discloses a plurality of emission layers (3-1, 3-2, 3-3) being separated from each other by an equipotential surface forming layer or a charge generating layer (4-1, 4-2) (fig. 8, ¶ [0175]), in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer as taught by Kido in the device of Senbonmatsu, in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

It is to be noted that the combination of Senbonmatsu and Kido meets all the structure limitations of the organic light emitting device. The limitation "so as to be set to a distance where an angle dependency of light emission brightness and light emission color can be reduced" is a functional statement. Therefore the in the combination of Senbonmatsu and Kido distance between the light reflective element

Art Unit: 2879

and the emission layers can be adapt to perform the claimed function, i.e. to reduce an angle dependency of light emission brightness and light emission color.

The following is a quotation of the MPEP 2114

APPARATUS CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM THE PRIOR ART

>While features of an apparatus may be recited either structurally or functionally, claims< directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971);< In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

Regarding **claim 16**, in the combination of Senbonmatsu and Kido, Kido clearly shows and discloses that the plurality of emission layers comprises emission layers (3-1, 3-2, 3-3) of at least two different emission colors (fig. 8, ¶ [0207]).

Same rationale to combine from the rejection of claim 15 applies.

Claims 13-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Senbonmatsu (20030102801)**, **Senbonmatsu hereinafter**, in view of **Kido et al (20030189401)**, **hereinafter Kido**, and further in view of **Tyan et al (20040061136)**, **hereinafter Tyan**.

Regarding **claim 13**, in the combination of Senbonmatsu and Kido discloses the claimed invention.

However, the combination of Senbonmatsu and Kido fails to exemplify that the light reflective element is a multilayered film of a dielectric.

In the same field of endeavor, Tyan clearly shows and discloses a light reflecting layer (composed by 26, 24, and 12) that is a multilayered film (fig. 11, ¶ [50]), in order to enhanced light extraction from device.

However, in the combination of Senbonmatsu, Kido and Tyan, Tyan is silent about the multilayered film been formed of a dielectric material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the light reflecting multilayer film of a dielectric material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. Evidence of a dielectric materials used as a light reflecting layer can be found in US 20040041516 A1, ¶ [0004] “an insulating (dielectric) layer, i.e., a light reflecting layer” and in Sugiura fig. 5, ¶ [0126].

Regarding **claim 14**, Senbonmatsu clearly shows and discloses an organic light emitting device having an emission layer (110) between an anode (106) and a cathode

Art Unit: 2879

(115); forming each of the anode and the cathode by an optically-transparent electrode; mounting any one of the anode or the cathode, as best understood by the Examiner, on a first surface of an optically-transparent substrate (102); and providing a light-reflective element (114) on a second surface of the substrate (fig. 18, Table 5).

However, Senbonmatsu fails to exemplify a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer.

In the same field of endeavor, Kido clearly shows and discloses a plurality of emission layers (3-1, 3-2, 3-3) being separated from each other by an equipotential surface forming layer or a charge generating layer (4-1, 4-2) (fig. 8, ¶ [0175]), in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer as taught by Kido in the device of Senbonmatsu, in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

However, the combination of Senbonmatsu and Kido fails to exemplify that the light-reflective element is also light-scattering, therefore providing at least either inside or outside the device, a light scattering means for scattering light emitted from the emission layers, so that the light scattering means is made.

In the same field of endeavor, Tyan clearly shows and discloses a light reflecting layer (composed by 26, 24, and 12) that is also light-scattering (fig. 11, ¶ [50]), in order to enhanced light extraction from device.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a light-reflective element is also light-scattering, therefore providing at least either inside or outside the device, a light scattering means for scattering light emitted from the emission layers, so that the light scattering means is made as taught by Tyan in the combination of Senbonmatsu and Kido, in order to enhanced light extraction from device.

Regarding **claim 17**, in the combination of Senbonmatsu and Kido discloses the claimed invention.

However, the combination of Senbonmatsu and Kido fails to exemplify that the light reflective element is a multilayered film of a dielectric.

In the same field of endeavor, Tyan clearly shows and discloses a light reflecting layer (composed by 26, 24, and 12) that is a multilayered film (fig. 11, ¶ [50]), in order to enhanced light extraction from device.

However, in the combination of Senbonmatsu, Kido and Tyan, Tyan is silent about the multilayered film been formed of a dielectric material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the light reflecting multilayer film of a dielectric material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious

Art Unit: 2879

design choice. In re Leshin, 125 USPQ 416. Evidence of a dielectric materials used as a light reflecting layer can be found in US 20040041516 A1, ¶ [0004] “an insulating (dielectric) layer, i.e., a light reflecting layer” and in Sugiura fig. 5, ¶ [0126].

Allowable Subject Matter

Claims 6 and 8-9 are allowed.

The following is an examiner’s statement of reasons for allowance:

Regarding claim 6, the references of Prior Art of record fails to teach or suggest the combination of the limitations as set fourth in claim 6, and specifically comprising the limitation “wherein said light scattering means is made up by forming said equipotential surface forming layer or said charge generating layer so that it has a light scattering property”in combination with the remaining limitations.

This limitation has not been found, taught, or suggested by the prior art of the record which it makes this claim allowable over the prior art.

Claims 8-9 are allowable due to their dependency upon claim 6.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Response to Arguments

Applicant's arguments with respect to claims 7-11 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments regarding claims 2-5 have been fully considered but they are not persuasive. In the combination of Sugiura and Kido, Sugiura discloses in ¶ [114] that the substrate (1) can be a glass substrate which it suggest that is an optically-transparent substrate; also all the device elements, i.e. transparent electrode(s), reflective element, etc., are on the substrate (1); the recitation of "to mount the first electrode on an optically-transparent substrate" does not mean that the electrode is in direct contact with the substrate, there can be an element therebetween.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE M. DIAZ whose telephone number is (571)272-9822. The examiner can normally be reached on 7:00 - 5:00 EST Monday-Thursday; Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2879

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/José M. Díaz/
Examiner, Art Unit 2879

/Sikha Roy/
Primary Examiner, Art Unit 2879